The Data Science Technology Stack

Contrasting critical issues in the public, scientific and commerce sectors

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Carnegie Mellon University
School of Computer Science

This talk

- Examples from the largest scale commercial big data systems.
- My personal top five recommendations for critical technology investments for large data systems

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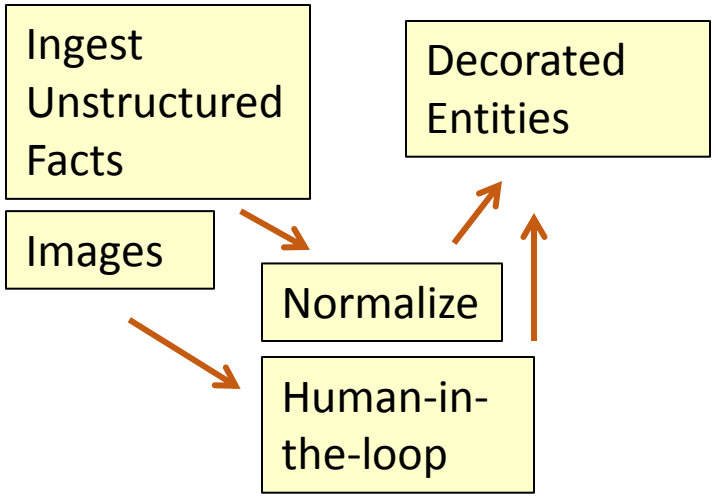

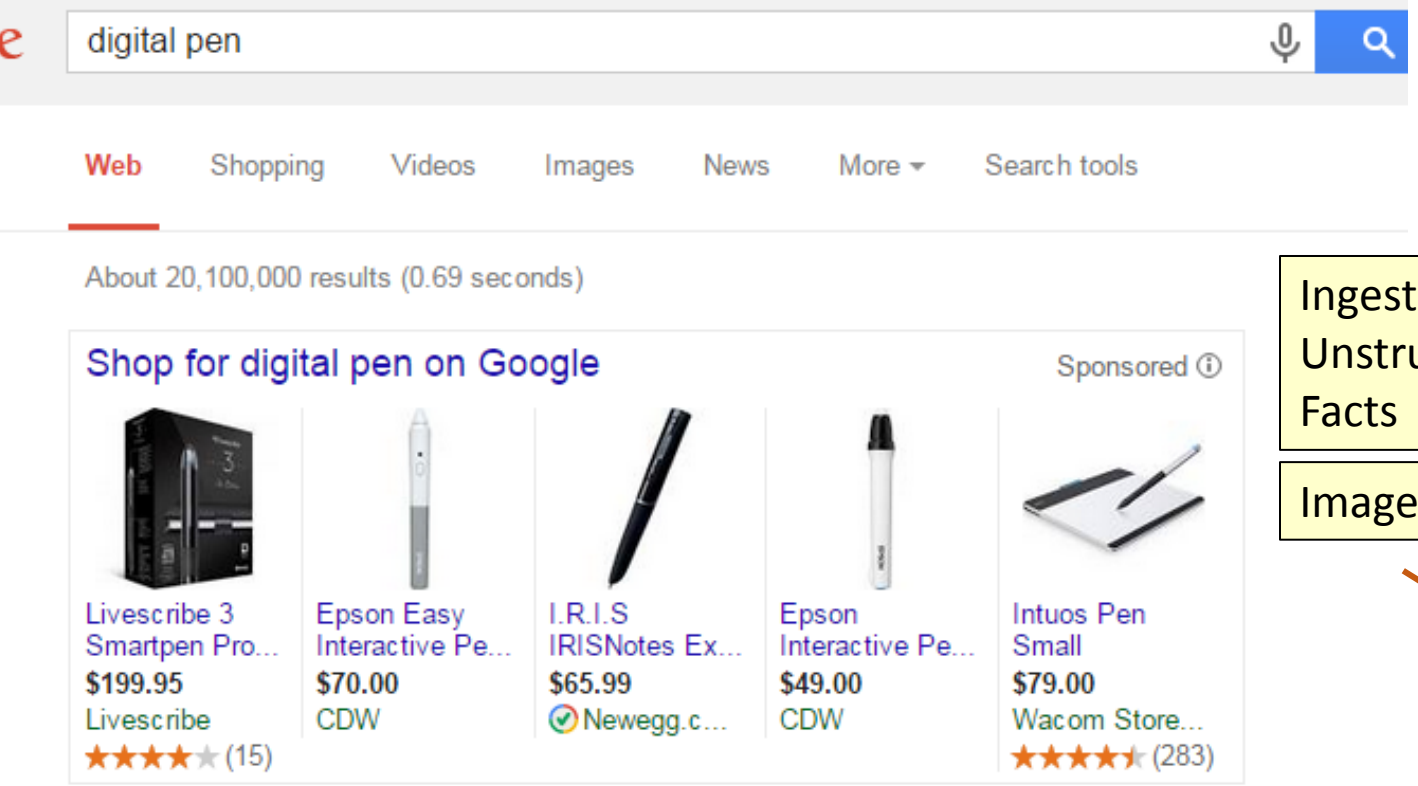
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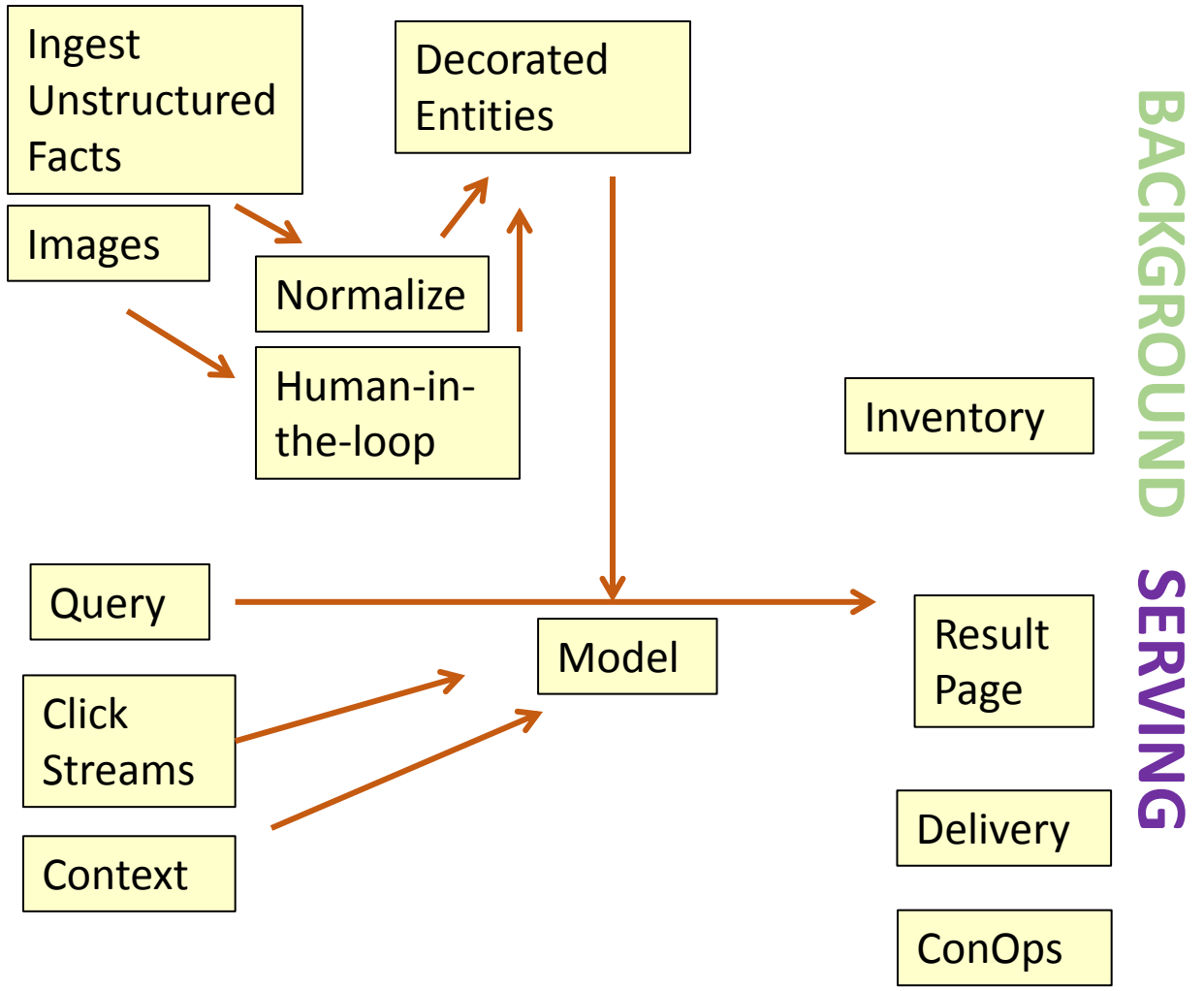
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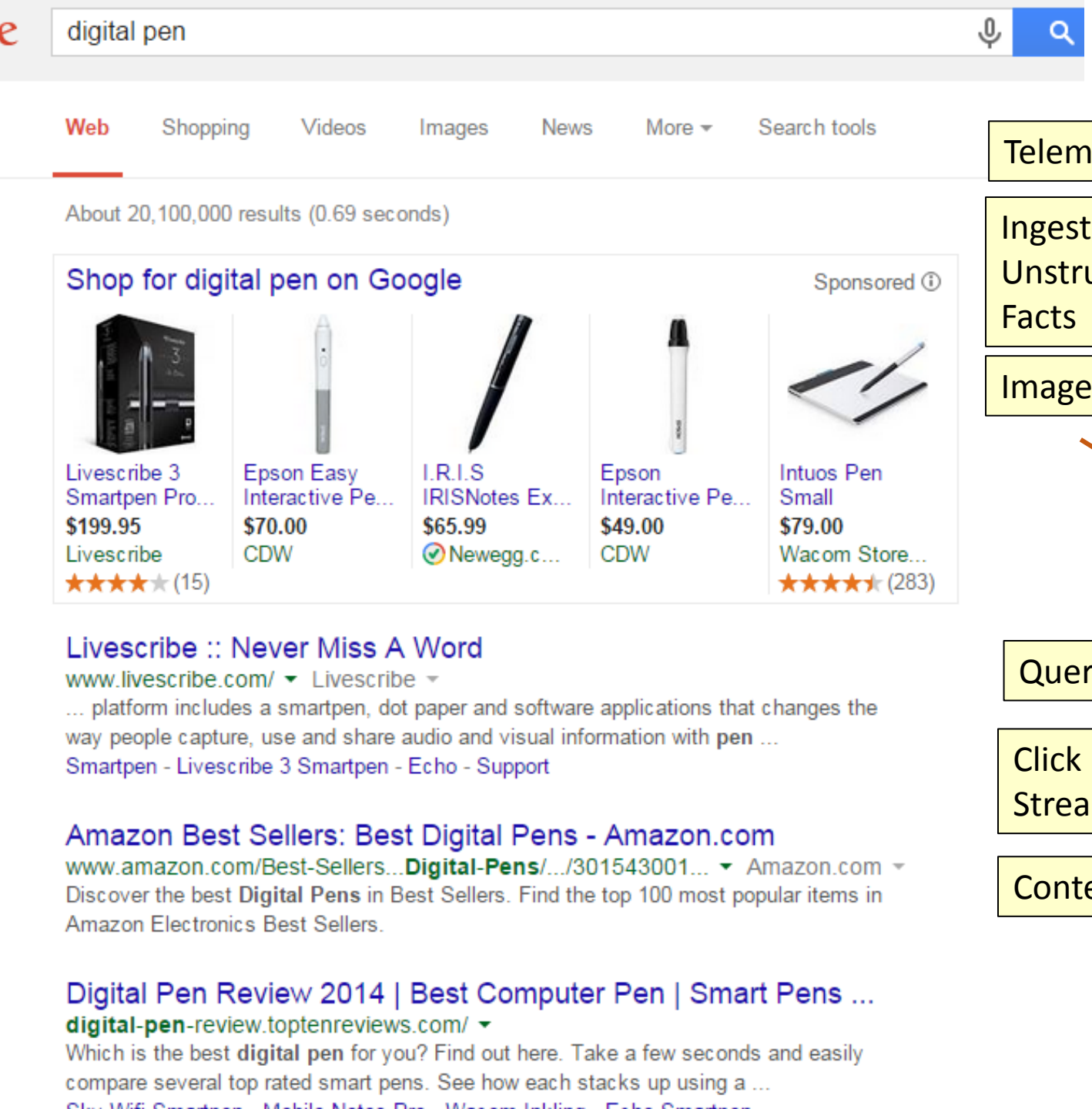
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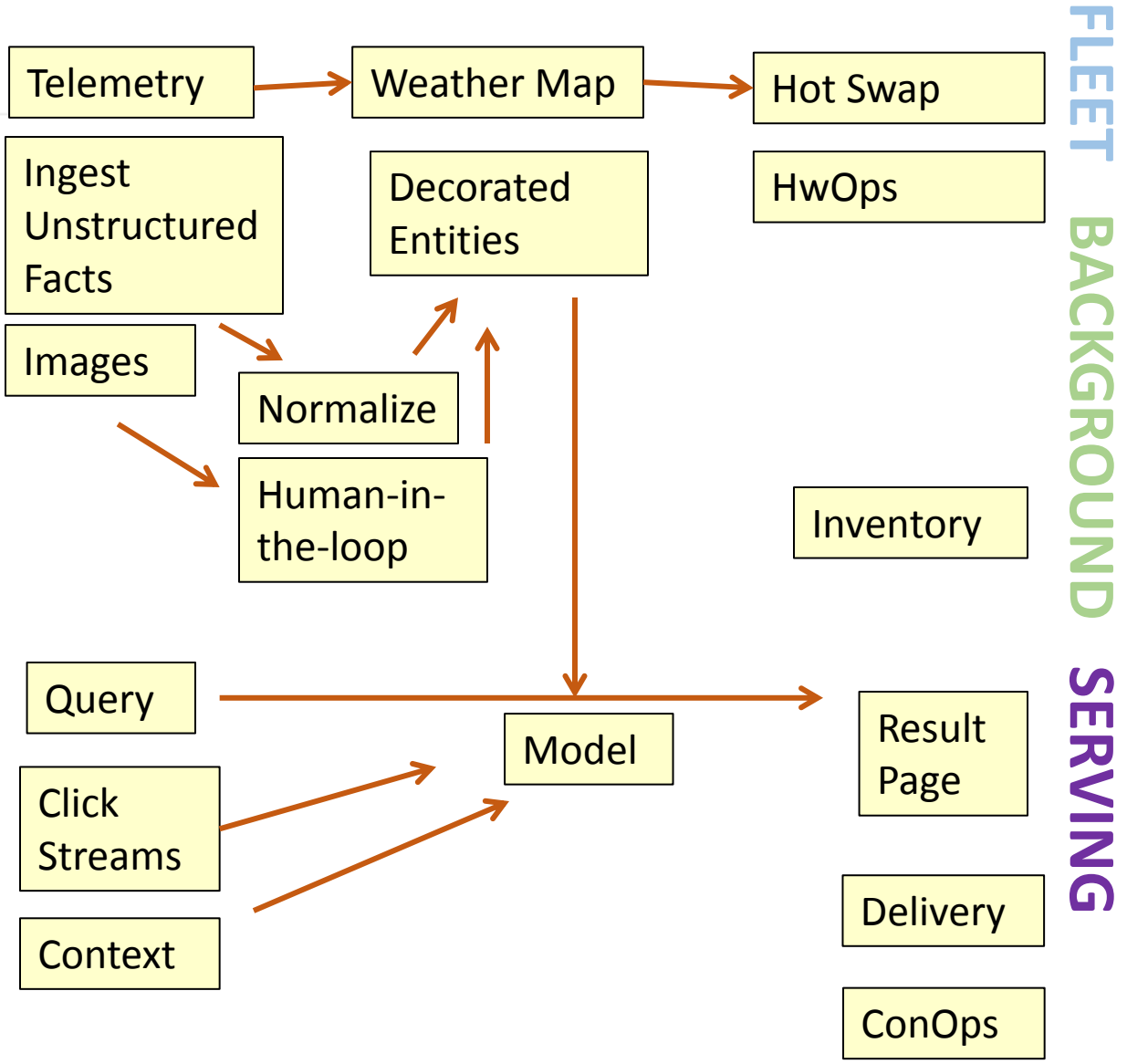
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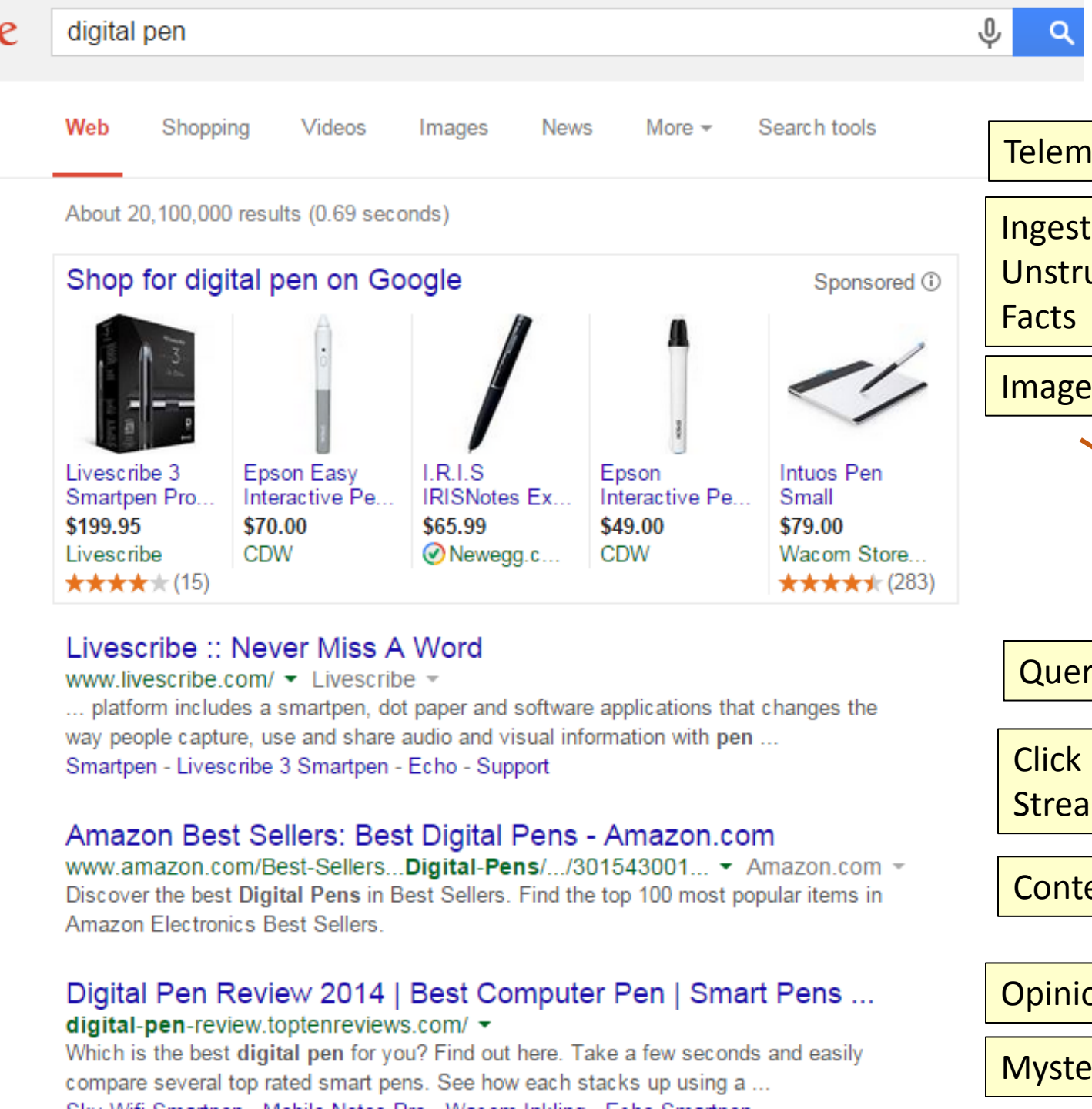
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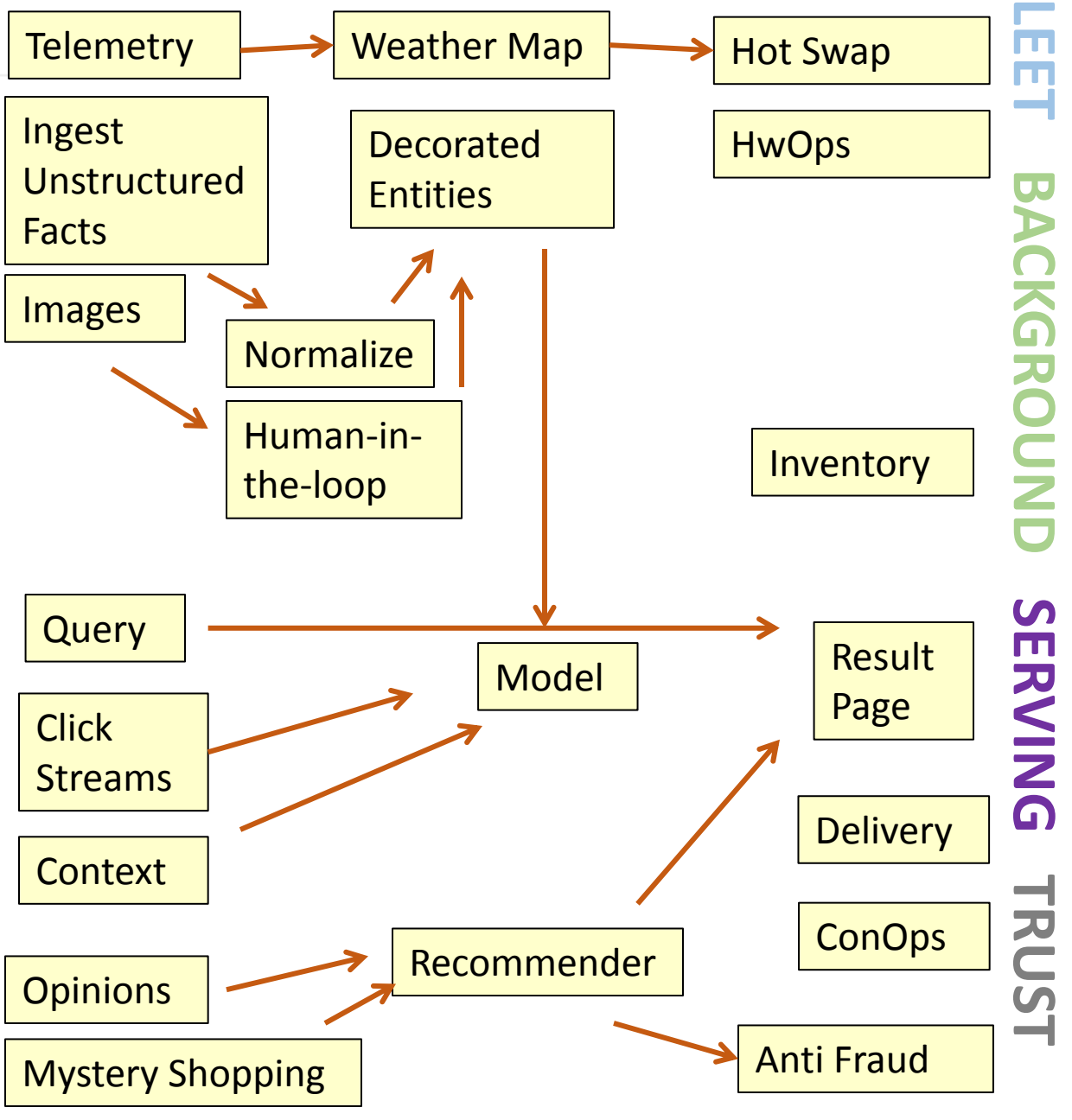
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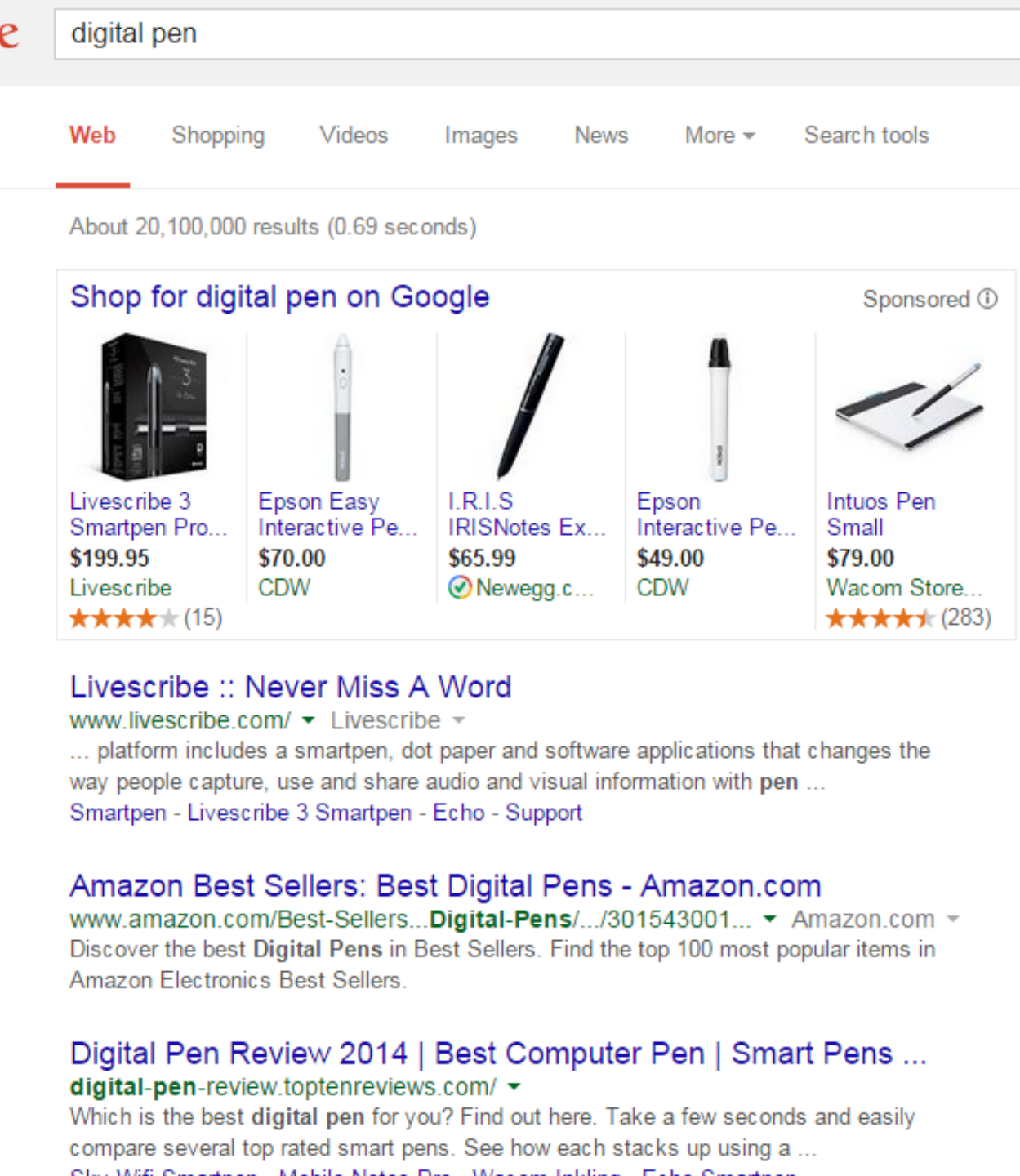
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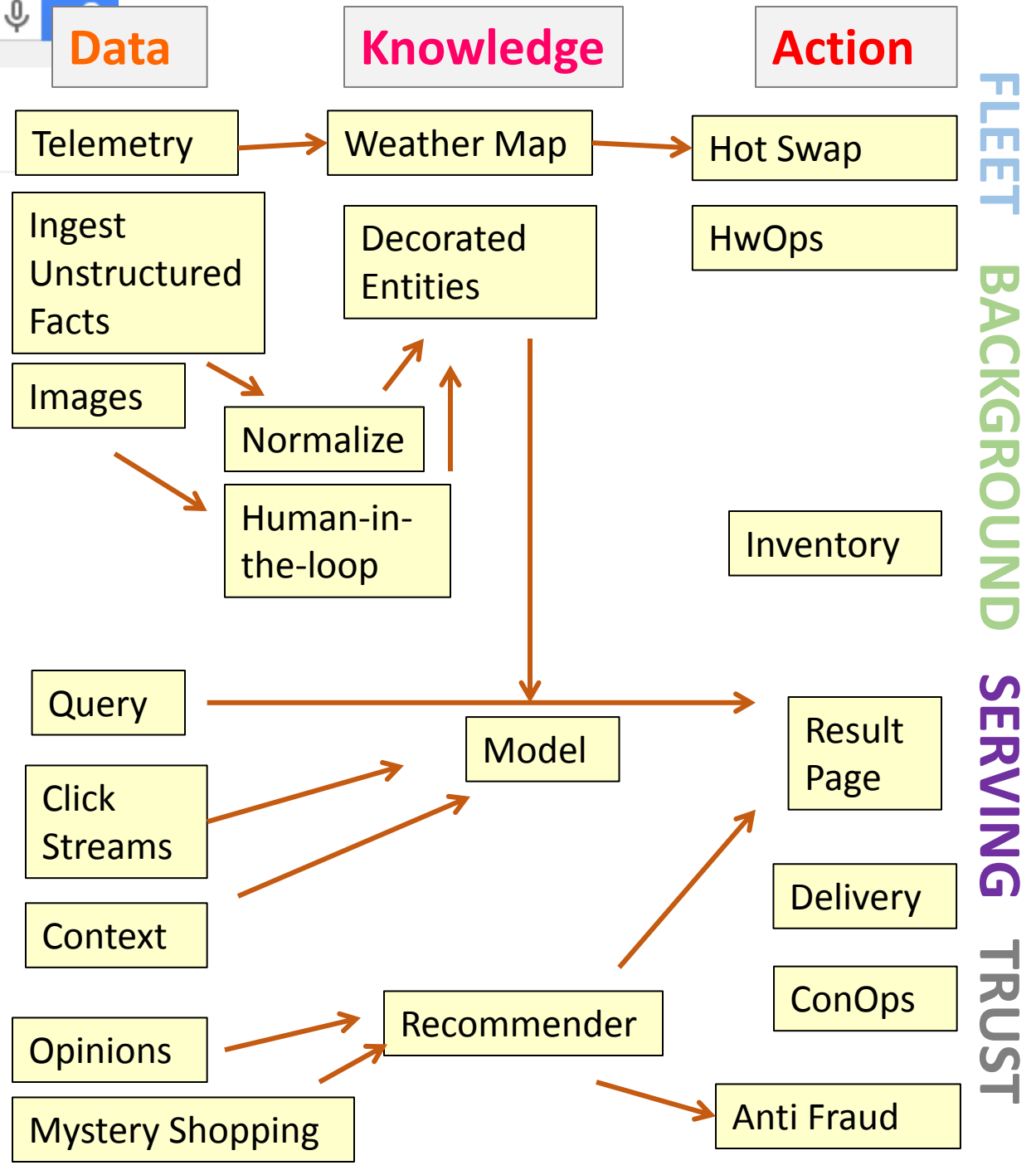
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My personal top five recommendations

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4	
5	

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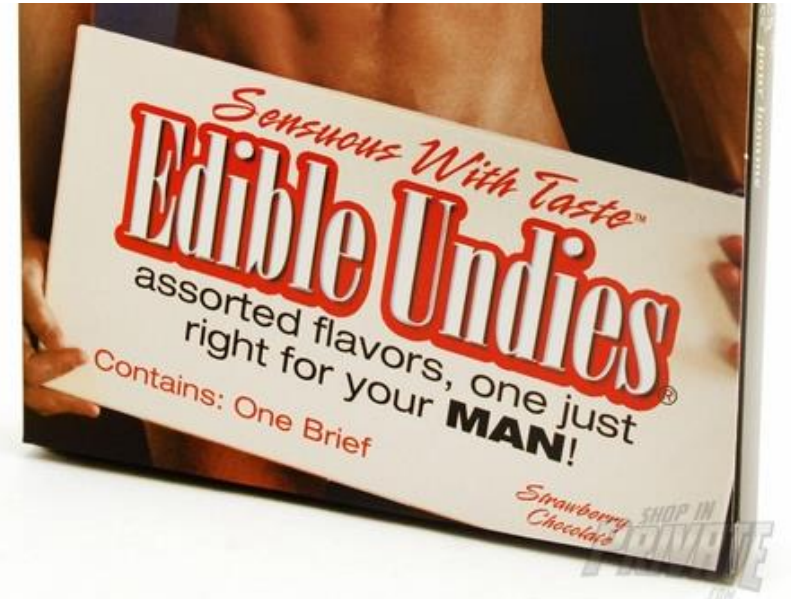

My personal top five recommendations

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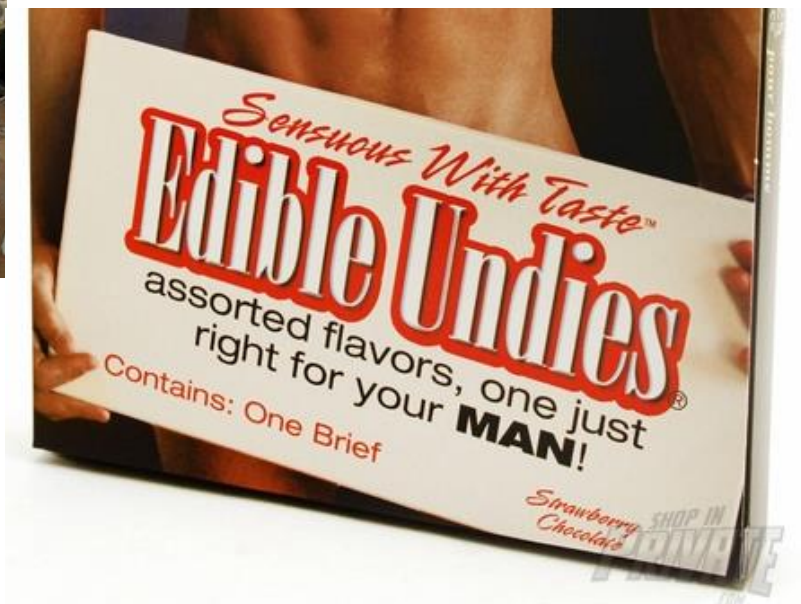
5	Human-in-the-loop



My personal top five recommendations

1	
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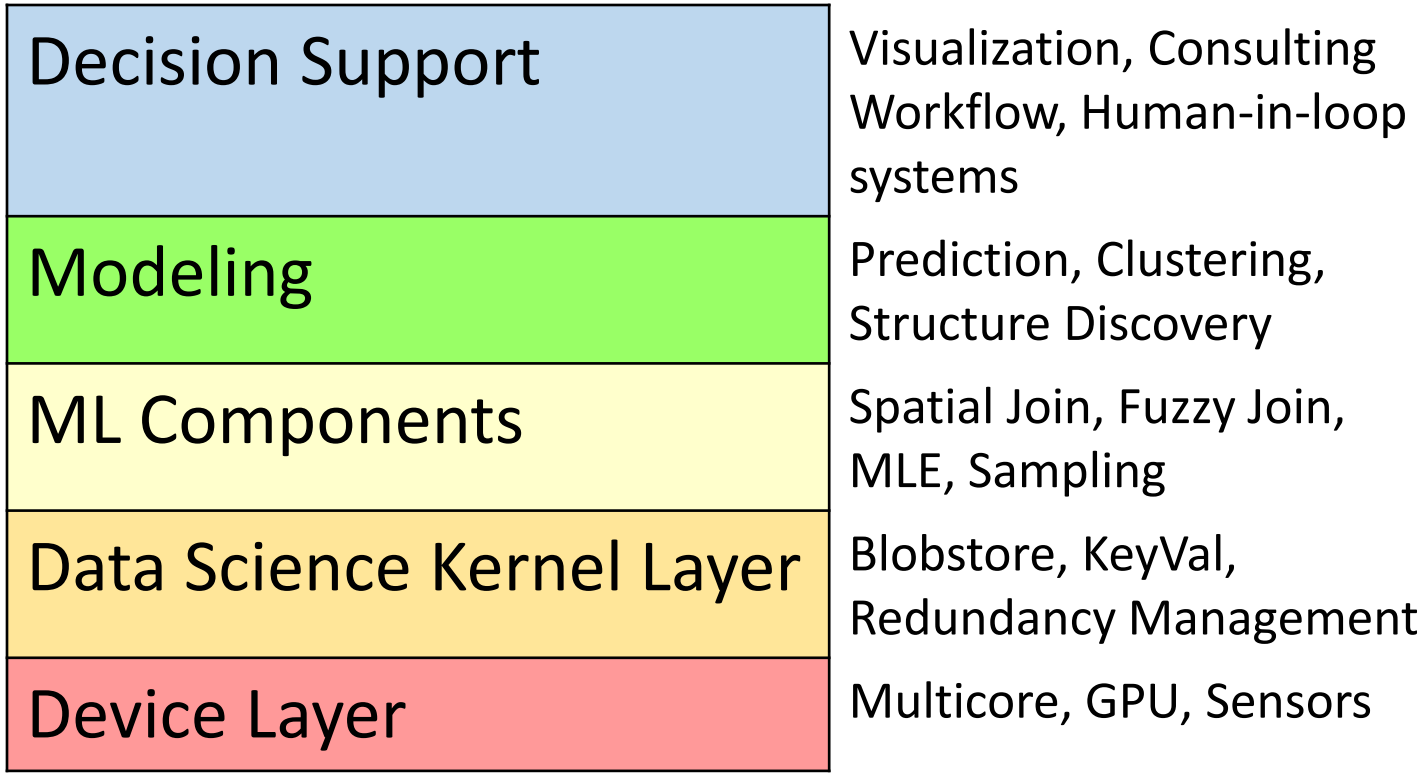
4	Delineation of the Data Science Stack
5	Human-in-the-loop



My personal top five recommendations

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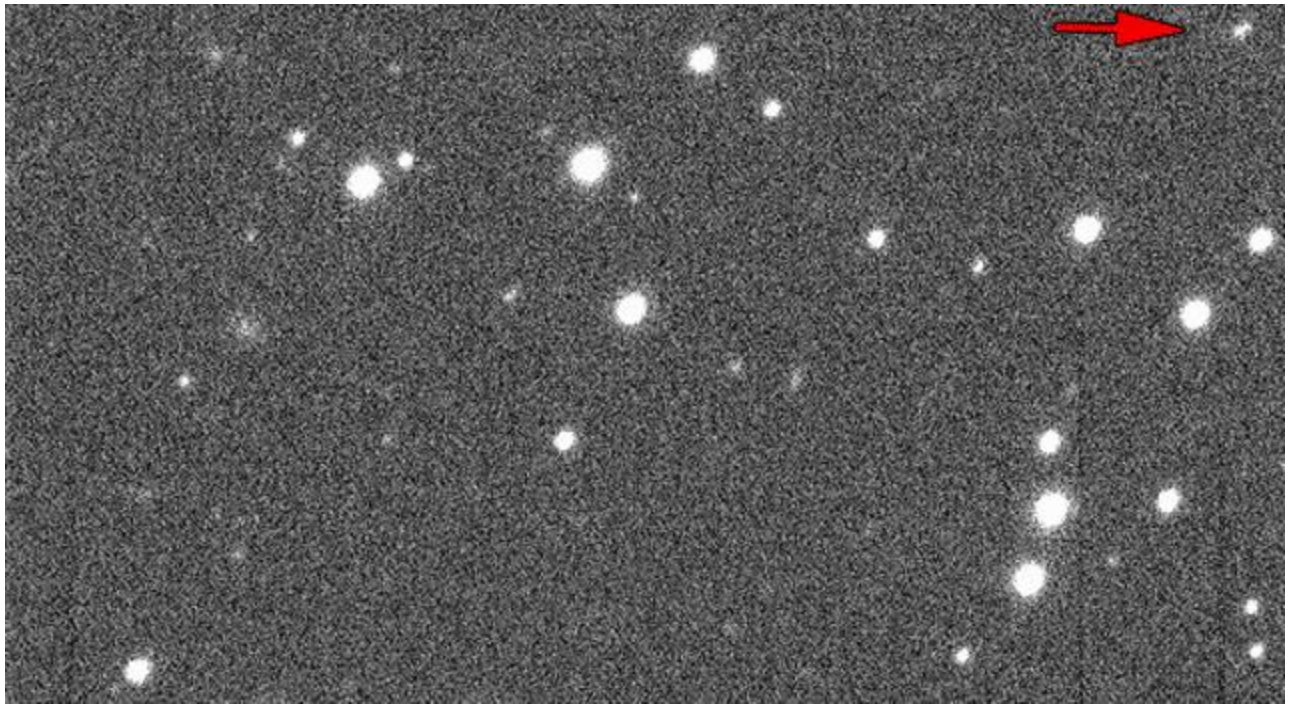
3	Data Intensive Computing Architectures
4	Delineation of the Data Science Stack
5	Human-in-the-loop



Panstarr telescope image (Kaiser et al)

My personal top five recommendations

1	
2	Entities
3	Data Intensive Computing Architectures
4	Delineation of the Data Science Stack
5	Human-in-the-loop

My personal top five recommendations

1	The Top of The Stack
2	Entities
3	Data Intensive Computing Architectures
4	Delineation of the Data Science Stack
5	Human-in-the-loop

Autonomy	Cognitive Assistance
Decision Support	
Modeling	
ML Components	
Data Science Kernel Layer	
Device Layer	